

ACCESSION NR: AT4020707

S/0000/63/000/000/0160/0165

AUTHOR: Krivosheyeva, I. A.; Razumov, A. I.; Teytel'baum, B. Ya.;
Yagfarova, T. A.

TITLE: Studies on the derivatives of phosphonic and phosphonous acids. XIX. Study of the polymerization of the butyl- and allyl-isopropenyl esters of ethylphosphonic acid

SOURCE: Karbotsepnny*ye vy*sokomolekulyarny*ye soyedineniya (Carbon-chain macro-molecular compounds); sbornik statey. Moscow, Izd-vo AN SSSR, 1963, 160-165

TOPIC TAGS: phosphonic acid, phosphonous acid, butyl isopropenyl ester, allyl isopropenyl ester, axodiisobutyronitrile, copolymerization, styrene, methylmethacrylate, acrylonitrile ethylphosphonic acid

ABSTRACT: The effect of the isopropenyl group on the polymerizability of esters was investigated by carrying out block polymerization of ethylphosphonates in the presence of 0.5, 1, 2, 3 and 5 mol. % axodiisobutyronitrile as an initiator at 50C for 150 hours or at 70C for 50 hours, in the presence of 1 mol. % benzoyl peroxide at 50C for 90 hours, and in the presence of 2 mol. % titanium tetrachloride in a methylene chloride medium at 50C. All experiments were carried out in an atmosphere of nitrogen. The allyl isopropenyl ester of ethyl phosphonic acid yielded a rubbery polymer which was insoluble in

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the common organic solvents but soluble in hot dimethylformamide. The characteristic viscosity of the block polymer in dimethylformamide was 0.054. With 0.5% azodiisobutyronitrile, a low-molecular viscous polymer was obtained. With higher amounts of this initiator and with benzoyl peroxide, a solid polymer was formed, although in the presence of the latter the reaction proceeded more slowly. The butylisopropenyl ester of ethylphosphonic could not be polymerized. In order to modify the properties of polystyrene, polymethylmethacrylate and polyacrylonitrile, both ethylphosphonic acid esters were copolymerized with these polymers at 50-70C in nitrogen, for 18 hours (for methylmethacrylate) up to 200 hours (for styrene), in the presence of 1 mol. % azodiisobutyronitrile based on the amount of monomers. The experimental data are tabulated, and the copolymers obtained are described. The thermomechanical properties of these copolymers are shown in graphs of deformation against temperature. Orig. art. has: 3 figures and 2 tables.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova (Kazan Chemicotechnological Institute)

SUBMITTED: 04Jun62

DATE ACQ: 20Mar64

ENCL: 00

SUB CODE: CH

NO REF SOV: 005

OTHER: 001

Card 2/2

RAZUMOV, A.I.; BANKOVSKAYA, N.N.

Aliphatic intermediate products of trivalent phosphorus. Zhur.
ob.khim. 33 no.12:4030 D '63. (MIRA 17:3)

1. Kazanskiy khimiko-tehnologicheskii institut imeni Kirova.

L 42956-66 EWT(1)/EWT(m)/EWP(1) RO/RM
ACC NR: AR6024992

SCURCE CODE: UR/0081/66/000/007/H121/H121
38
37

AUTHOR: Zabusova, N. G.; Razumov, A. I.; Tarzivolova, T. A.

TITLE: Studies in the series of derivatives of phosphonous and phosphonic acids.
Report No. 30. Synthesis of nitrogen- and sulfur-containing derivatives of oxides of
dialkylcarboxymethylphosphine

SOURCE: Ref. zh. Khimiya, Part I, Abs. 7Zh399

REF SOURCE: Tr. Kazansk. khim-tekhrol. in-ta, vyp. 33, 1964, 167-170

TOPIC TAGS: organic nitrogen compound, organic sulfur compound, organic phosphorus compound

ABSTRACT: In a search for biologically active compounds, $R_2O(O)CH_2CONR'R''$ (I; always $R=Et$), $R_2P(O)R'$ (II), and $R'P(O)CH_2CONR_2''$ (III) were obtained by two methods. In method A, a mixture of R_2POR and $ClCH_2CONR'R''$ is heated in a CO_2 atmosphere until the reaction starts, and the substances are crystallized from octane or heptane. In method B, a mixture of an amine and $R_2P(O)CH_2COOR$ is heated to 150° , and after driving off the alcohol, the substances are separated. R' , R'' , the method of synthesis, the yield in %, b. p. in $^\circ C/mm$ or m. p. in $^\circ C$, n_{20}^D , d_4^{20} are given for I: H, H, A, 88, 77-8, -, -, R, R, A, 71, 142-3/0.18, 1.4864, 1.0427; Ph, Ph, A, 68.5 (by method B 64%), 8809, -, -, H, Bu, A, 64.4, 54, -, -, H, PhCH₂, B, 72, 95, -, -, H, Ph, B, 78.5, 126, -, -, H, p-MeC₆H₄, A, 37, 104, -, -, for II (except R''): CH₂CN, A, 83, 135-6/0.3 m. p. 1° ,

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129/0-66 EWT(m)/EW(J)/WMT(1)/ETI - IJ(c) JD/RM
ACC NR: AR6024991 SOURCE CODE: UR/0081/66/000/007/H119/H119

AUTHOR: Krasil'nikova, Ye. A.; Korol', O. I.; Razumov, A. I. 40
B

TITLE: Studies in the series of derivatives of phosphonous and phosphonic acids.
Report No. 31. Reactions of thioesters of alkylphosphonous acids with alkyl halides 27

SOURCE: Ref. zh. Khimiya, Part I, Abs. 7Zh391

REF SOURCE: Tr. Kazansk. khim.-tekhnol. in-ta, vyp. 33, 1964, 171-180

TOPIC TAGS: organic sulfur compound, organic phosphorus compound, alkyl halide

ABSTRACT: The reaction of $RP(SR)_2$ (I; always $R=C_2H_5$) with $R'X$ produced the adducts $[RR'P(SR)_2]X$ (II), which on heating convert into $RR'P(S)SR$ (III), and in many cases into RR'_2PS (IV) (a few). Thermal decomposition of II in the presence of $R'X$ produces III and IV in about the same proportions. These results do not confirm a proposed mechanism of the reaction of I with $R'X$ with detachment of $RSEr$ from II (RZhKhim, 1958, No. 8, 25246). To 50 g of I in a CO_2 atmosphere is added 38.9 g of CH_3I at 22° , after ~16 hr the crystals of II ($R=CH_3$, $X=I$) (IIa) are washed with ether, and III, 74% ($R'=CH_3$) (IIIa) is separated from the liquid part (here and further on, the yield in % is given with the substance). 30 g IIa is carefully melted, Ri , 92 is driven off, and IIIa, 77 is separated. 20 g I and 11 g CH_3Br at -10° are sealed into a tube, and 2 days later (at $20-22^\circ$) II is removed ($R'=Me$, $X=Br$), and IIIa, 72 is isolated. 20 g I and 10.77 g RBr are heated in a tube for 4 hours at $140-150^\circ$, and crystals of R_3PS ,

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L 42970-66

ACC NR: AR5024991

8 are removed; III ($R'=C_2H_5$), 65 and $RP(S)(SR)_2$ (V), 4.5 are separated from the filtrate. R' , X , the yield in %, m. p. in °C are given for II: CH_3 , Br, 5, 66-7; CH_3 , I, 35, 67-8; $C_6H_5CH_2$, Br (IIb), 40, 75-6; $C_6H_5CH_2$, I, 44, 79-80.5; $[(CH_3)RP(SC_4H_9)_2]I$, 19, 59-60.5. R' , the yield in %, m. p. in °C/mm, $n_{D^{20}}$, d_4^{20} are given for III: CH_3 , 76, 64-6/0.03, 1.5650, 1.0978; C_2H_5 , -, 74-5/0.25, 1.5585, 1.0878; C_3H_7 , 55, 77-80/0.1, 1.5515, 1.0721; C_4H_9 , 88, 85-6/0.05, 1.5675, 1.0774; V, 88-90/0.28, 1.5870, 1.1326; $RP(SC_4H_9)_2$: -, 69, 114-5/0.02, 1.5275, 0.9726; $RP(S)(SC_4H_9)_2$: -, 53, 122-4/0.02, 1.5560, 1.0560; $RP(Se)(SC_4H_9)_2$: -, 53, 128-30/0.02, 1.5772, 1.2160; $R(CH_3)P(S)SC_4H_9$: -, 50.76-7/0.02, 1.5445, 1.0398; $R(C_6H_5CH_2)P(S)SC_4H_9$: -, 20, 127-30/0.05, 1.5820, 1.0878; $RP(Se)(SR)_2$: -, 80, 108-9/0.4, 1.6175, 1.3584. 13 g IIb is heated at 75°, yield of RBr 75%, distillation of residue isolates III ($R'=C_6H_5CH_2$) (IIIb), 70, and in the residue IV ($R'=C_6H_5CH_2$) (IVb), 3.6 remains. A mixture of 9 g IIb and 4.4 g $C_6H_5CH_2Br$ is heated for 1 hr at 105°, and RBr , 86.6, $C_6H_5CH_2Br$, 68, IIIb, 86, and IVb, 3.2, are separated. The reaction of 41 g $C_6H_5P(SR)_2$ with 30.48 g $C_6H_5CH_2Br$ yields $(C_6H_5)_2C_6H_5CH_2P(S)SR$, 37 and $C_6H_5(C_6H_5CH_2)_2PS$, yield 3.5%, m. p. 146-7°. For Report No. 30, see Abs. 7Zh399. V. Gilyarov. [Translation of abstract]

SUB CODE: 07

Card 2/2-10

RAZUMOV, A. I.; LIOREER, B. G.; GAZIZOV, M. B.; KHAMMATOVA, Z. M.

Phosphinic and phosphinous acid derivatives. Part 20: Synthesis of esters of allylphosphinous acid and the reactions of addition to them of elements of group VI. Zhur. ob. Khim. 34 no.6:1851-1855 Je '64. (MIRA 17:7)

1. Kazanskiy khimi-tehnologicheskii institut imeni Kirova.

1. (Rash, B. A. 1. 1974, 1. 1.

Phosphinic and phosphinous acid derivatives. Part 1.
Rearrangement reactions of allyl phosphonates. Izv. Ak.
Nauk. 34, no. 6: 1856-1859. 1974. 10:11.

1. Kazanskij khimiko-tekhnologicheskij institut imeni Kirova.

REPOV, V. I.; BHEVLETA, N. N.

Phosphinic and phosphinous acid derivatives. Part 1: Nature
of the aliphatic intermediate products of "Wittig rearrangement".
Zhur. ob. Khim. 34 no.6:1859-1863 Ju '68. (Rus. 1968)

1. Kzansk'y kaimiko-tekhnologicheskiy institut imeni Karpova.

L 17960-65

EWT(m)/EPF(c)/EWP(j)

Pc-4/Pr-4

RPL

WW/JFW/RM

ACCESSION NR: AP5002619

S/0079/64/034/008/2589/2594

AUTHOR: Razumov, A. I.; Moskva, V. V.

TITLE: Investigations in the series of derivatives of phosphinic and phosphinous acids. XXIII. Synthesis and certain properties of phosphorylated acetals and aldehydes with aliphatic radicals 5

SOURCE: Zhurnal obshchey khimii, v. 34, no. 8, 1964, 2589-2594

TOPIC TAGS: phosphinic acid, ester, halogenated organic compound, organic phosphorus compound, aldehyde, acetaldehyde, aliphatic hydrocarbon, phosphorus

Abstract: The Arbuzov rearrangement of esters of trivalent phosphorus with halogen-substituted acetals was used to produce phosphorylated acetals: the reaction of triethyl phosphite, the diethyl ester of ethylphosphinous acid, and the ethyl ester of diethylphosphinous acid with diethyl acetals of bromoacetic and beta-chloropropionic aldehydes was studied. A series of phosphorylated acetals was synthesized through this reaction, and the corresponding aldehydes were produced by their hydrolysis. The structures of the phosphorylated acetals and aldehydes were confirmed by analysis.

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L 17960-65

ACCESSION NR.: AP5002619

production of the 2,4-dinitrophenylhydrazones, and infrared spectra.
Diethylphosphoneacetaldehyde was found to cyclize to 1,3,5-tri(diethyl-
phosphone)benzene. Orig. art. has 3 formulas and 3 tables.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova
(Kazan' Chemicotechnological Institute)

SUBMITTED: 15Jun63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 005

OTHER: 003

JPRS

Card 2/2

L 17961-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RPL WW/JFW/RM

ACCESSION NR: AP5002620

S/0079/64/034/008/2595/2599

AUTHOR: Razumov, A I.; Savicheva, G A.

TITLE: Investigation in the series of derivatives of phosphinic and phosphorous acids. XXIV. Synthesis and properties of phosphorylated acetals and aldehydes with aromatic radicals

SOURCE: Zhurnal obshchey khimii, v. 34, no. 8, 1964, 2595-2599

TOPIC TAGS: phosphinic acid, ester, halogenated organic compound, organic phosphorus compound, aldehyde, acetaldehyde, hydrolysis, aromatic hydrocarbon

Abstract: Phosphorylated acetals and aldehydes with aromatic radicals⁷ were produced by the reaction of esters of phenyl-, p-tolyl-, p-ethylphenyl-, p-isopropylphenyl-, and diphenylphosphinous acids with bromoacetaldehyde and beta-chloropropionaldehyde. The reaction of the ethyl ester of phenylphosphinous acid with beta-chloropropionaldehyde indicated that the ethyl ester of gamma-ethoxyallylphenylphosphinic acid is formed at higher temperatures, instead of phenylethoxyphosphinylpropionic acetal. Hydrolysis of some of the synthesized acetals produced phosphinylaldehydes, and reaction of the latter with 2,4-dinitrophenylhydrazine produced the corresponding hydrazones.

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L 17961-65

ACCESSION NR: AP5002620

The characteristic frequencies in the infrared spectra of the reaction products are summarized. A cryoscopic determination of the molecular weight in benzene for ethoxytolylphosphinylacetaldehyde, produced by saponification of the acetal, indicated the absence of association or dissociation of the aldehyde molecules. Orig. art. has 2 formulas and 3 tables.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova
(Kazan' Chemicotechnological Institute)

SUBMITTED: 15Jun63

ENCL: 00

SUB CODE: OC, GC

NO REF SOV: 006

OTHER: 002

JPRS

Card 2/2

L 18278-65 EWT(m)/EPT(c)/EWP(j) Po-4/Pr-4 RM
 ACCESSION NR: AP5002990 8/0079/64/034/009/3125/3126

AUTHOR: Razumov, A. I.; Moskva, V. V.

TITLE: Interaction of dialkylphosphorus acids with orthoformic esters

SOURCE: Zhurnal obshchey khimii, v. 34, no. 9, 1964, 3125-3126

TOPIC TAGS: organic phosphorus compound, ester

Abstract: Dialkylphosphorous acids were found to react with orthoformic esters, forming the corresponding phosphorylated formals (dialkyl esters of dialkoxymethylphosphinic acids) without a catalyst in vapors of o-bromotoluene at 182°. A maximum degree of conversion of 25-27% is reached in five hours; the yield of phosphone formals is about 80%. Orig. art. has 1 formula and 1 table.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova (Kazan' Chemicootechnological Institute)

SUBMITTED: 2/Mar64

ENCL: 00

SUP CODE: 00, 00

NO REF SOV: 000

OTHER: 000

JPRS

Card 1/1

I. 34689-65 EPF(c)/EPR/EWP(j)/EWT(m) Pc-l/Pr-l/PS-l EM/WW

ACCESSION NR: AP5009936

UR/0079/64/034/010/3243/3247 29

AUTHOR: Ratunov, A. I.; Bankovskaya, N. N. 28
8

TITLE: Investigations in the series of derivatives of phosphinic and phosphinous acids. XV. On the rate of decomposition of aliphatic intermediate products of the Arbuzov rearrangement

SOURCE: Zhurnal obshchey khimii, v. 34, no. 10, 1964, 3243-3247

TOPIC TAGS: chemical kinetics, reaction rate, chemical reaction, reaction mechanism, organic phosphorus compound

Abstract: The kinetics of the decomposition of the aliphatic intermediate products of the Arbuzov rearrangement was studied by two methods: 1) the decomposition of the crystalline intermediate products, in which observations of the rate were conducted according to the amount of alkyl halide liberated, and 2) the reaction kinetics of the decomposition of the intermediate product in solutions of nitromethane by measurement of the electric conductivity. The decomposition of the intermediate product (second phase of the rearrangement) was found to be a first-order reaction. Orig. art. has 3 figures, 3 formulas, and 2 tables.

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L 34689-65

ACCESSION NR: AP5009936

ASSOCIATION: Kazanskiy khimiko-tehnologicheskiy institut im. S. M. Kirova
(Kazan Chemiotechnological Institute)

SUBMITTED: 06Jul63

ENCL: 00

SUB CODE: GC, OC

NO REF SOV: 008

OTHER: 004

JPRS

Card 2/2

L 19607-65 EWT(m)/EPF(c)/EWP(j) Pc-4/Pr-4 RM

ACCESSION NR: AP5003150

S/0020/64/158/002/0423/0426

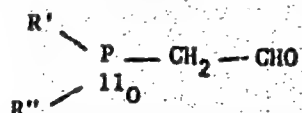
AUTHOR: Razumov, A. I.; Savicheva, G. A.; Budnikov, G. K.

TITLE: Polarographic behavior and structure of certain phosphorylated aldehydes in aqueous solutions

SOURCE: AN SSSR. Doklady, v. 158, no. 2, 1964, 423-426

TOPIC TAGS: aldehyde, polarography, phosphorus, aqueous solution

Abstract: The polarographic reduction of phosphorylated aldehydes with the general formula



where R' = C₂H₅, C₂H₅O, C₆H₅, p-CH₃-C₆H₄, p-C₂H₅-C₆H₄, p-iso-C₃H₇-C₆H₄, p-Cl-C₆H₄; R'' = C₂H₅, C₂H₅O, was systematically studied for the first time. Their polarographic activity was due to the aldehyde group rather than the phosphoryl group. Two portions could be distinguished on the polarographic waves of aqueous solutions of the compounds studied: the portion of the curve of the base of the wave possessed the character of an

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L 19607-65

ACCESSION NR: AP5003150

adsorption prewave; in the middle pH region, as the concentration of the substance in solution was increased to $7 \cdot 10^{-3}$ mole/liter, the height of the reduction wave increased in proportion to the concentration, the height of the prewave decreasing. The temperature coefficient was 4-5% per degree.

The value of the electroreduction current was determined by the equilibrium concentration of the free aldehyde form, the position of the equilibrium of the aldehyde form with the hydrated form in turn depending on the pH of the solution. The principle of linear free energy was used for a quantitative evaluation of the influence of substituents at the phosphorus atom on the reactivity of the aldehyde group; it was found that satisfactory correlation of the values of $E_{1/2}$ and the sum of the sigma constants of the substituents is observed only if the values of the Hammett constants are used, while if the constants of the substituents according to Taft and Kabachnik are used, no such pattern is manifested. Orig. art. has 2 formulas, 4 graphs, and 1 table.

ASSOCIATION: Kazanskiy khimiko-tekhnologicheskii institut im. S. M. Kirova (Kazan Chemical Engineering Institute); Khimicheskii institut im. A. Ye. Arbuzova Akademii nauk SSSR (Chemical Institute, Academy of Sciences, SSSR)

SUBMITTED: 15Apr64

NO REF SOV: 007

Card 2/2

ENCL: 00

OTHER: 004

SUB CODE: OC, OP

JPRS

...
... of phosphoric acid derivatives. Part 16:
... of phosphoric acid derivatives and carboxylic acids from aldehydes and
... . Khim. ob. kadm. 35 no.7:1149-1151 31 '65.

(MIRA 18:6)

... khimiko-tekhnologicheskiy institut im. S.M. Kirova.

1. *Chemical structure of the compound.*

2. *Reactivity of the compound towards various reagents.*
3. *Physical properties of the compound (melting point, boiling point, density, etc.).*
4. *Chemical synthesis of the compound.*
5. *Biological activity of the compound.*
6. *Pharmacological properties of the compound.*
7. *Toxicological properties of the compound.*
8. *Environmental fate of the compound.*
9. *Other relevant information.*

L 25596-06 ENT(m)/ENP(j) RM

ACC NR: AP6016694

SOURCE CODE: UR/0079/65/035/009/1595/1598

AUTHOR: Razumov, A. I.; Moskva, V. V.

ORG: Kazan' Chemicotechnological Institute im. S. M. Kirov (Kazanskiy khimiko-
tekhnologicheskii institut)

TITLE: Investigation in the series of derivatives of phosphinic and phosphinous acids.
XXXII. Interaction of orthoformic esters with incomplete esters of phosphorous and
phosphinous acids

SOURCE: Zhurnal obshchey khimii, v. 35, no. 9, 1965, 1595-1598

TOPIC TAGS: phosphorous acid, phosphinic acid, ester, tautomerism, hydrolysis

ABSTRACT: The reaction of orthoformic esters with dialkylphosphorous acids was extended to other phosphorous and phosphinous compounds: diethylthio-phosphorous acid, monoesters of ethyl- and p-chlorophenylphosphinous acids, and diethylphosphinous acid (diethylphosphine oxide). Replacement of alkoxy groups at the phosphorous atom by alkyl groups produced a drop in the conversion of the starting materials; replacement of the ethoxy group by the p-chlorophenyl group resulted in an increase in the conversion. The phosphorylated formals obtained are characterized. A reaction mechanism is proposed based on tautomerism of incomplete esters of phosphorus and phosphinous acids; the authors consider the participation of the pentavalent

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UDC: 546.183:547.291

L 25596-66

ACC NR: AP6016694

form in the reaction more probable. The hydrolysis of phosphone formals and thiophosphone formals was studied. The phosphone formals were more stable to acid hydrolysis than the acetals. Hydrolysis under more rigorous conditions (heating in a tube with 5% hydrochloric acid at 117° or in a flask with 7% hydrochloric acid at 125°) led to cleavage of the C-P bond, liberating the initial diethylphosphorous acid, alcohol, and ethyl formate. A reaction mechanism is proposed for the hydrolysis of phosphone formals, involving the formation of an intramolecular hydrogen bond between the hydrogen of the hydroxyl and the phosphoryl oxygen. Orig. art. has: 1 table. [JPRS]

SUB CODE: . 07 / SUBM DATE: 28Jul64 / ORIG REF: 002

Card 2/2 *RV*

L 29278-66 -ENP(j)/EWT(1)/EWT(m) RM/RO

ACC NR: AP6019320

SOURCE CODE: UR/0079/65/035/008/1454/1460

AUTHOR: Razumov, A. I.; Savicheva, G. A.; Budnikov, G. K.

ORG: Kazan' Chemico-Technological Institute im. S. M. Kirov (Kazanskiy khimiko-tekhnologicheskii institut); Chemical Institute im. A. Ye. Arbuzov, AN SSSR (Khimicheskii institut AN SSSR)

TITLE: Reactivity of organophosphorus compounds containing carbonyl groups. I. Polarographic study of phosphorylated aldehydes in aqueous solutions

SOURCE: Zhurnal obshchei khimii, v. 35, no. 8, 1965, 1454-1460

TOPIC TAGS: organic phosphorus compound, polarographic analysis, aldehyde, aqueous solution

ABSTRACT: The polarographic behavior of compounds $RR'P(O)CH_2CHO$ ($R = Et, EtO, Ph, p-MeC_6H_4, p-EtC_6H_4, p-iso-PrC_6H_4, p-ClC_6H_4$; $R' = Et, EtO$) and $RR'P(O)CH_2CH_2CHO$ ($R = Et, EtO, Ph, p-MeC_6H_4, p-ClC_6H_4$; $R' = EtO$) in aqueous solutions was studied. The half-wave potentials - E_1 for both types of aldehyde increased in an approximately linear relation with increasing values of $\Sigma \sigma$ for the substituents, when these values were calculated according to Hammett. No such relation was found when values of σ calculated according to Taft, or Kabachnik were used. The behavior

Card 1/2

UDC: 543.253:547.448.1

L 29278-66

ACC NR: AP6019320

of the aldehydes with respect to polarographic reduction indicated that the aldehydes in solution were in equilibrium with a protonized hydrated form and with an enol form, the equilibrium between the various forms depending on the pH of the solution. Orig. art. has: 6 figures, 1 formula, and 1 table. [JPRS]

SUB CODE: 07 / SUBM DATE: 13Jun64 / ORIG REF: 010 / OTH REF: 006

Card 2/2 CC

L 27757-66 EWT(m)/EWP(1) JW/RM
 ACC NR: AP6018508 SOURCE CODE: UR/0079/65/035/011/2038/2042
 AUTHOR: Razumov, A. I.; Savicheva, G. A.
 ORG: Kazan Chemicotechnological Institute im. S. M. Kirov (Kazanskiy khimiko-
 tekhnologicheskii institut) 41
 TITLE: Investigation in the series of derivatives of phosphinic and phosphinous
 acids. XXVII. Phosphorylated acetals with aromatic radicals and their conversion
 products.
 SOURCE: Zhurnal obshchey khimii, v. 35, no. 11, 1965, 2038-2042
 TOPIC TAGS: phosphinic acid, acetal, hydrolysis, ester, organic synthetic process,
 hydrazine derivative, nonmetallic organic derivative, phosphorylation
 ABSTRACT: The corresponding phosphorylated acetals were produced by the
 reaction of the ethyl esters of phenyl-, p-tolyl-, and p-chlorophenyl-
 phosphinous acids with bromoacetic and beta-chloropropionic acetals. The re-
 action of esters of arylphosphinous acids with alpha-bromopropionic acetal
 was found to proceed only under more rigorous conditions (200-250°), and led
 to the formation of esters of ethoxyvinylphosphinous acids instead of the
 expected phosphorylated acetals, which the authors postulate as unstable inter-
 mediates in the reaction. Hydrolysis of the acetals and unsaturated esters
 synthesized under mild conditions yielded phosphonylaldehydes, all of which
 reacted with 2,3-dinitrophenylhydrazine to give the corresponding hydrazones.
 Orig. art. has: 3 formulas and 1 table. JPRS
 SUB CODE: 07/ SUBM DATE: 02Jul64 / ORIG REF: 001 / OTH REF: 001

Card 1/1

UDC: 547.448.1

1 312001
ACCESSION CODE: UR/0079/66/036/002/0524/0319

AUTHOR: Khramov, A. I.

ORG: Chemical Institute im. F. M. Kirov (Kazanskiy khimiko-

technical)

TITLE: A series of phosphinic and phosphinous acid derivatives.
XXXI. Synthesis, rearrangement, and oxidation of esters of phosphorus acids with
allyl radicals

SOURCE: Khimiya i biokhimiya, v. 36, no. 2, 1966, 314-319

TOPIC TERMS: ester, phosphorous, nonmetallic organic derivative, phosphinic acid,
epoxide, oxide formation, spectrum analysis, molecular structure

ABSTRACT: The diallyl ester of allylphosphinous acid was synthesized by the action of allyldichlorophosphine on allyl alcohol in the presence of triethylamine, and some of its reactions, proceeding with the participation of the trivalent phosphorus atom, were studied. Diallyl esters of allylthio- and -seleno-phosphinic acids were prepared by the addition of sulfur and selenium to the diallyl ester of allylphosphinous acid; the corresponding esters of allyl- and diallylphosphinic acids were prepared by rearrangement with chloral and allyl bromide. Mono-, di-, and triepoxide derivatives of secondary phosphinic acids were prepared by oxidation of esters of allylethyl- and diallyl-phosphinic acids with acetyl peroxide. Proton magnetic resonance spectra established the structures of these epoxides. The epoxy compounds and rearrangement products are being tested for biological activity. Orig. art. has: 1 figure and 2 tables. [JPRS]

SUB CODE: 07 / SUBM DATE: 02Feb65 / ORIG REF: 012 / OTH REF: 004
UDC: 547.26'113

Card 1/1

ACC NR: AP6030552

SOURCE CODE: UR/0413/66/000/016/0031/0031

INVENTOR: Razumov, A. I.; Gurevich, P. A.

ORG: none

TITLE: Preparation of phosphorylated hydrobenzimidazoles. Class 12, No. 184845
[announced by Kazan Chemical Technology Institute im. S. M. Kirov (Kazanskiy
khimiko-tekhnologicheskii institut)]

SOURCE: Izobreteniya, promyshlennyye obraztsy, tovarnyye znaki, no. 16, 1966, 31

TOPIC TAGS: phosphorylated hydrobenzimidazole, orthophenyldiamine, phosphorylated
acetal, phosphorylation, benzene, phenyl compound, amine, acetal

ABSTRACT: Phosphorylated hydrobenzimidazoles are prepared by heating o-pheny-
lenediamine with phosphorylated acetals. In the proposed method, the
reaction mixture is heated to 150—170°C. [WA-50; CBE No. 11]

SUB CODE: 07/ SUBM DATE: 18May65/

Card 1/1

UDC: 547.781.3'18.07

RAZUMOV, A.S.

DECEASED

c' 1960

1962/5.

SEE ILC.

BACTERIOLOGY

MIKHAYLOV, Mikhail Ivanovich; RAZUMOV, Aleksandr Sergeyevich; KHOROV, Leonid Davydovich; BALAKIREV, A.F., red.; ROMANOVA, S.F., tekhn.red.

[Protection of wire communications lines from the electromagnetic effect of high-voltage power transmission lines]
Zashchita ustroystv provednoi svyazi ot elektromagnitnogo vliianiia linii vysokogo napriazheniia. Moskva, Gos.izd-vo lit-ry po voprosam svyazi i radio, 1961. 70 p.

(MIRA 14:12)

1. TSentral'nyy nauchno-issledovatel'skiy institut svyazi Ministerstva svyazi SSSR (for Mikhaylov, Razumov, Khorov).
(Telephone lines--Overhead) (Shielding (Electricity))
(Telegraph lines)

А.И. М. М. М.

С.И. М. М. М.

Dissertation: "Investigation of the Speed of an Induction Motor with the
Aid of the Oscillatory Circuit in a Motor." Moscow Order of Lenin Power Engineering Inst
itute V. M. Molotov, 7 Jun 47.

CC: Vechernyaya Moskva, Jun, 1947 (Project #17836)

AID P - 463

Subject : USSR/Electricity

Card 1/1 Pub. 27 - 26/34

Author : Razumov, A. V., Kand. of Tech. Sci., Dotsent

Title : Conference on Scientific and Technical Problems at the
Ivanovo Power Institute im. Lenin. (Current News)

Periodical : Elektrichestvo, 7, 90, J1 1954

Abstract : Report on a conference held in March 1954, concerning
the results of scientific research work during the past
year of the Ivanovo Power Institute im. Lenin.

Institution : None

Submitted : No date

1ST AND 2ND ORDERS										3RD AND 4TH ORDERS									
PROCESSES AND PROPERTIES INDEX																			
<i>LA</i> <i>75</i> Aniline black in the printing of naphtholated goods. B. A. RASUNOV AND M. F. CHMERKOV. <i>Izvestiya Tekhnicheskoi Prom. i Torgovli</i> 9, No. 1-2, 145-6(1930); <i>Chemie & industrie</i> 24, 944 — Aniline black for printing on naphtholated goods has the following compn.: paramine 3, aniline 60, 18% Bt. HCl 96, thickener (starch, gum tragacanth) 520, NaClO₄ 40, H₂O 42, K₂Fe(CN)₆ 240. In com. work this formula gave slight brownish shades, particularly with very finely engraved designs; this defect, which could not be observed in the lab. tests, was overcome by increasing the amt. of 18% Bt. HCl to 115 g. so that sufficient acid is supplied to all points of the printed fabric completely to neutralize the naphtholate. This black can be roll-printed on naphtholated goods on reserves prepd. with basic dyes and thickened diazo salts; it does not soil the roll and does not corrode the scrapers. The strength of the fabric is the same as when printed with aniline in the usual way. A. PAPINBAU-COUTURE																			
ASB-5LA METALLURGICAL LITERATURE CLASSIFICATION																			
SYNOPSIS										SYNOPSIS									
SYNOPSIS										SYNOPSIS									

RAZUMOV, B.I.

22537 Razumov, B.I. Osnovnye rezul'taty rabot laboratorii fiziologii rastenii sbornik
trudov pushkinsk laboratorii vsesoyuz in-ta rastenievodstva L 1949 s 21-35

SO: LETOPIS' No. 30, 1949

RAZUMOV, B.I. , SMIRNOVA, M.I.

22538 Razumov, B.I. Smirnova, M.I. Znachenie autochnogo temperaturnogo rezhima v protsesse yarovizatsii sbornik trudov pushkinsk laboratorii vsesoyuz in-ta rastenievodstva L 1949 s 115-130 bibliogr s 130

SO: LETOFIS' No. 30, 1949

RAZUMKOV, Diador Vadimovich; SEMENOV, Vadim Makarovich; PASHKOV,
V.N., nauchnyy red.; MEL'NIKOVA, G.P., red.; KES'YSLCVA,
L.M., tekhn. red.

[Exercises in traffic regulations] Uprazhneniia po pravilam
ulichnogo dvizheniia avtomototransporta. Moskva, Proftekh-
izdat, 1962. 127 p. (MIRA 15:9)
(Automobile drivers--Education and training)

HAZUMOV, G.A.

Radial water intakes with horizontal filters under the river bottom.
Vod. i san. tekhn. no. 12:17-21 D '60. (MIRA 14:4)
(Water-supply engineering)

RAZUMOV, Gennadiy Aleksandrovich; VERIGINA, N.N., doktor tekhn. nauk,
prof., red.; BUTT, V.P., red. izd-va; KHENOKH, F.M., tekhn.
red.

[Radial intakes for urban and industrial water supply] Luche-
vye vodozabory dlia vodosnabzheniia gorodov i promyshlennosti.
Pod red. N.N.Verigina. Moskva, Izd-vo M-va kommun.khoz.
RSFSR, 1962. 58 p. (MIRA 15:7)
(Intakes chydraulic engineering)
(Water-supply engineering)

ACCESSION NR: AR4025721

S/0081/64/000/002/B074/B074

SOURCE: RZh. Khimiya, Abs. 2B496

AUTHOR: Razumov, G. A.; A. A. Kane, B. I. Brounshteyn

TITLE: The kinetics of the thermal decomposition of solids

CITED SOURCE: Sb. tr. Gos. in-ta prikl. khimii, vy*p. 49, 1962, 170-182

TOPIC TAGS: kinetics, thermal decomposition, solid state decomposition, activation energy, inorganic crystal

TRANSLATION: It has been shown that the Yerofeyev equation which is used in practice does not correctly describe the process of thermal degradation of inorganic crystals since it holds only for a reaction in a continuous medium with formation of a nucleus in the volume. During the thermal decomposition of crystals, nuclei are formed only on the surface. A solution was obtained to the problem of calculating the probability of a reaction at a given point in the body for the general case with a body of any shape and an arbitrary law for the formation of nuclei not only on the surface, but also throughout the volume of the body. The exact solution obtained is analyzed for two limiting cases. It is shown that the

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ACCESSION NR: AR4025721

total energy of activation depends not only on the nature of the compound but also on the dimensions and shape of the particles. By means of the similitude theory, two dimensionless variables are found which define the process of thermal decomposition Authors' summary.

DATE ACQ: 03Mar64

SUB CODE: TD, IC

ENCL: 00

Card 2/2

PARKY, G.A.; BLOCHSTEIN, M.I.; KILL, A.A.

Kinetics of the thermal decomposition of solids. Study GEPKH
no.49:172-182 '62. (MIRA 19:11

RAZUMOV, G. A., inzh.

Deep horizontal radial drainage. Gidr. 1 mel. 15 no.3: 31-38
Mr '63. (MIRA 16:4)

(Drainage)

RAZUMOV, G.A., inzh.

Functioning of intake bores in conditions of irregular movement
of groundwater. Vod. i san. tekhn. no.1:8-10 Ja '63. (MIRA 16:2)
(Intakes (Hydraulic engineering))
(Water, Underground)

RAZUMOV, G.A. (Moskva)

Horizontal bore holes of finite length in a water drive
reservoir of limited thickness. PMTF no.5:128-135 S-0 '61.
(MIRA 14:12)

(Boring)

(Water, Underground)

RAZUMOV, I.

Production needs an engineer-administrator. Sots. trud 8 no.6:61-68
Je '63. (MIRA 16:9)

(Industrial management—Study and teaching)
(Technicians in industry)

84-58-2-23/46

AUTHOR: ~~Razumov, I.~~, Candidate of Technical Sciences, and Kvitka, V., Gubkina, G., Engineers

TITLE: Noise Characteristics of the Tu-104 Airliner (Kharakteristiki shuma, sozdavayemogo samoletom Tu-104)

PERIODICAL: Grazhdanskaya aviatsiya, 1958, Nr 2, pp 19-21 (USSR)

ABSTRACT: The article is a report on the results of noise level tests carried out in the State Scientific Research Institute with the Tu-104 jet and the Il-14 conventional airliners. The results of tests are compared with each other and with those of the French Caravelle jet aircraft. The conclusion is that the Tu-104, flying at 375 m. altitude and rated engine speed creates a noise level at a listening station placed 4,500 m. from the take-off point equal to that of the Il-14 plane passing at an altitude of 200 m. The noise level of the Tu-104

Card 1/2

84-58-2-23/46

Noise Characteristics of the Tu-104 Airliner

is of the same order as that of the Caravelle and other foreign jet aircraft. Three diagrams and two tables accompany the text.

AVAILABLE: Library of Congress

Card 2/2 1. Airplane noise-Test results 2. TU-104(Airplane)-USSR
3. Il-14(Airplane)-USSR

S/123/62/000/002/011/012
A004/A101

AUTHOR: Razumov, I. A.

TITLE: The effect of circular horizontal vibrations during the solidification of the metal on its quality

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 2, 1962, 9, abstract 2653 (V sb. "Novoye v liteyn. proiz-ve. no. 3", Gor'kiy, 1963, 114-119)

TEXT: A small pilot vibration installation has been developed and built at the Foundry Laboratory of the Gor'kovskiy politekhnicheskoy institut im. Zhdanova (Gor'kiy Polytechnic Institute im. Zhdanov) to investigate the effects of a number of factors on the property and quality of the metal during vibration pouring, above all on the shrinkage. This installation made it possible to impart circular oscillating movements in the horizontal plane (at variable radius and numbers of revolution) to molds mounted on its table. Circular vibrations have a number of advantages over reciprocal ones, but have not at all been studied yet. During the vibrator operation, each metal particle carries out circular oscillating motions in the horizontal plane. The oscillation amplitude



Card 1/2

The effect of circular horizontal ...

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A004/A101

λ can be varied within the range of 0 - 3.5 mm, the number of oscillations n amounts to 750, 900 and 1,050 per minute. The vibrator starting time τ is also variable. A number of experimental cast-iron pourings were carried out on the vibrator, pouring being effected into dry painted cylindrical molds 100 mm in diameter, 120 - 150 mm high, and 30 mm in diameter, 340 mm high. The n , λ , τ , and t -values varied. It was found out that circular vibrations in the horizontal plane show a favorable effect on the improvement of mechanical properties and density of the cast iron poured into dry, painted sand molds. With vibrations, the hardness is more uniformly distributed over the casting cross section than the hardness of specimens poured into immobile molds. The fluidity of the cast iron during vibration pouring into sand molds is higher than during the pouring into immobile molds under the same conditions. Shrinkage defects affecting the casting are considerably reduced over the casting height, and in some cases they can be eliminated in cast iron. Cracks are not observed in the castings. The optimum vibration amplitude during the pouring of cast iron lies in the range of 0.5 - 1.2 mm and depends on the casting frequency and temperature. The optimum frequency under the same conditions amounts to 900 - 1,050 osc/min.

[Abstracter's note: Complete translation]

Card 2/2

RAZUMOV, I.K.

Ventilator speed limits and permissible noise levels in ventilation
grilles. Vod. 1 ser. tekhn. no. 5:21-25 My '61. (MIRA 14:6)
(Ventilation)

21976 21/11/1961 17/11/1961
2004/11/11

26 4140

AUTHOR: Razumov, I. K.

TITLE: Muffling of test stands of aircraft engine plants

PERIODICAL: Referativnyy zhurnal, Mashinostroyeniye, no. 17, 1961, 36-37,
abstract 171195 ("Gigiyena i sanitariya", 1961, no. 1, 100-104)

TEXT: The noise of modern aircraft engines during starting, adjusting and testing is, concerning the physiological effect, the most disadvantageous. The total noise intensity level in testing cabins amounts to 140-150 decibels and considerably exceeds the threshold of pain. In connection with noise propagation over a long distance, uneasy conditions are caused for the population in districts of test stands and airports. This necessitates to combat the noise by muffling the noise emitted from intake and exhaust pipes and to soundproof the noise passing through the test cabin protection. The permissible total level of the noise intensity and noise spectrum are regulated by definite sanitary standards and regulations. The rated permissible noise level of low-frequency spectral composition is: at the border of residential districts - not exceeding 70 decibels, near noise-emitting apertures - 95-120 decibels. in disemination

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27926

S/123/61/000/017/019/021
AG04/A101

Muffling of test stands of aircraft engine plants

cabins - not more than 90-95 decibels. The author describes the layout of a three-shaft box of Π -shaped cross section, with two shafts for the suction of the primary and mixing of the secondary outer air to reduce the gas temperature, and one exhaust shaft with directing blades and distributing cascades, balancing the stream, and three double rows of cylindrical silencers suspended in the intake and exhaust shafts. The author gives a brief description of highly efficient silencer types: laminar, honeycomb, cylindrical and tubular. Various materials can be used for silencing: fibrous materials (mineral wool, glass fiber, paper), loose materials (brick, porous clay and pumice crumbs); monolithic materials (porous ceramics from mineral crumbs with different binders). Fibrous materials possess the highest silencing coefficients, while monolithic materials possess the poorest. The author gives a brief description of the work carried out by him to determine the residual noise spectra of muffled gas-dynamic installations and presents some recommendations on the only permissible relative noise spectrum. There are 1 figure and 2 graphs.

N. Sergeyev

[Abstracter's note: Complete translation]

Card 2/2

RAZUMOV, I.K., kand. tekhn. nauk

Methods for controlling noise in production processes.

Mashinostroitel' no.8:30-32 Ag '63.

(MIRA 16:10)

L 04716-67 EWT(1) SCTB DD
 ACC NR: AP6027594 (A, N) SOURCE CODE: UR/0248/66/000/008/0013/0017

AUTHOR: Razumov, I. K.; Malinskaya, N. N.; Denisov, E. I. 26
 B

ORG: Institute of Labor Hygiene and Occupational Diseases AMN SSSR,
Moscow (Institut gigyeny truda i profzabolevaniy AMN SSSR)

TITLE: Significance of spectral analysis in evaluating specific
features of local vibration effects on the human body

SOURCE: AMN SSSR. Vestnik, no. 8, 1966, 13-17

TOPIC TAGS: industrial hygiene, industrial medicine, biologic vibration
 effect, vibration spectrum

ABSTRACT: Since 1962 the Institute of Labor Hygiene and Occupational
 Diseases has been studying vibration produced by percussion and rotary
 mechanized hand tools using a spectral analysis method to determine the
 relation between vibration spectra and clinical symptoms. The article
 represents a discussion of some 700 vibration spectra of hand power
 tools used in various industries. The vibration spectral analyses show
 that the vibrations are characterized by a wide frequency band including
 both high and low frequency components. High frequency vibrations as
 well as low frequency vibrations beyond certain levels can induce

Card 1/2 UDC: 613.644+616-001.34-057/073.432.1

L 04716-67

ACC NR: AP6027594

vibration sickness. Low frequency vibrations tend to produce vibration sickness affecting the neuromuscular system and the bones and joints. High frequency vibrations tend to produce vibration sickness affecting the vascular system. Continued studies of vibration spectra and their relation to clinical symptoms will provide a basis for establishing maximum permissible vibration levels in different frequency bands. Orig. art. has: 3 figures.

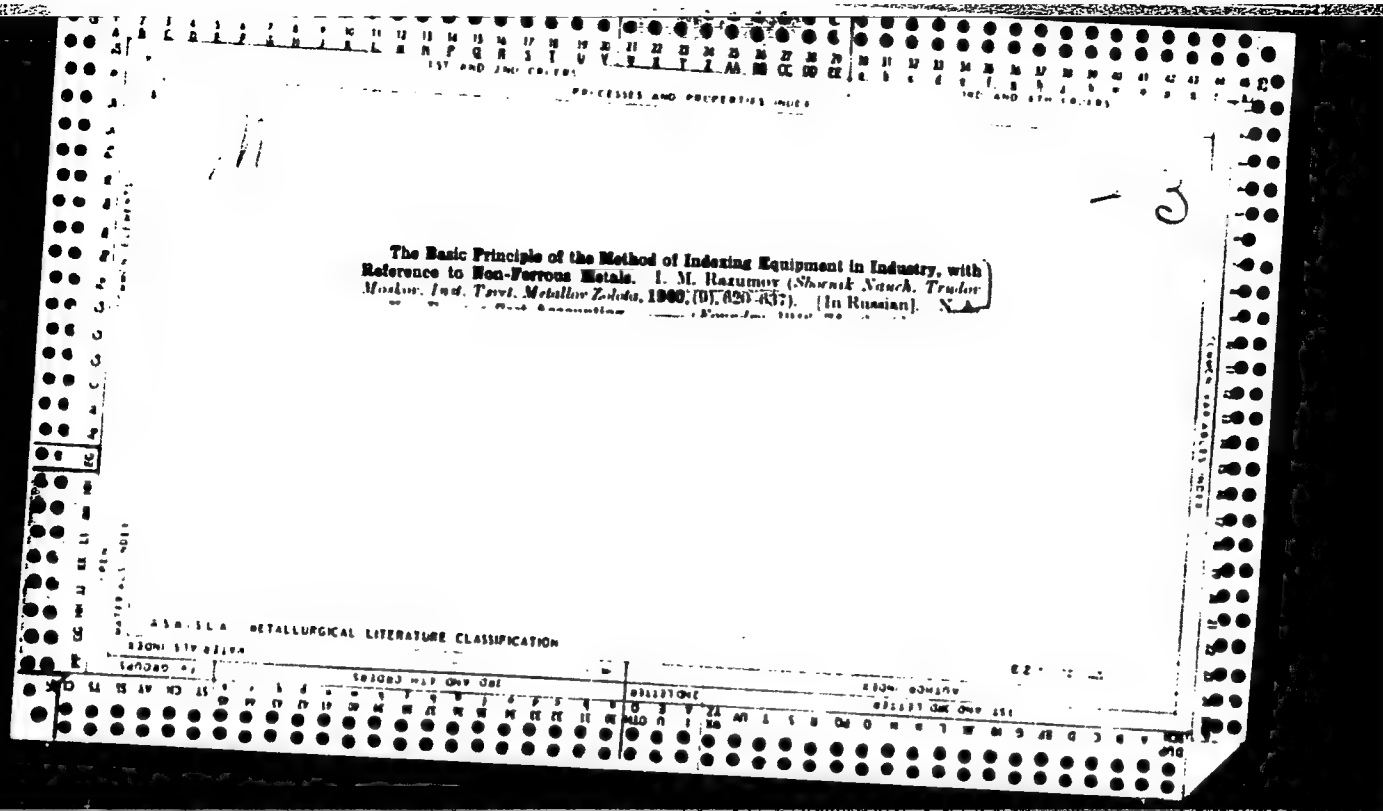
SUB CODE: 06, 20/ SUBM DATE: 23Mar65/ ORIG REF: 002/ OTH REF: 002

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Cord 2/2 afs

AEROV, M.E.; NIKITINA, N.I.; RAZUMOV, I.M.

Determination of the heat fields in reactors by the method of
electrothermal analogy. Khim.prom. no.7:531-534 J1 '63.
(MIRA 16:11)



CG

Higher technical schools for nonferrous metallurgy.
I. P. Glek and I. M. Razumov. *Soviet. Nauka* 1940, No
4, 124-32.—The development of nonferrous metallurgy
in U. S. S. R. is described. S. Machelson

9

ASR-15-A METALLURGICAL LITERATURE CLASSIFICATION

RAZUMOV, I.M.; PERLIN, I.L.; PRIYMAK, I.A., retsenzent; KAZAKEVICH, I.E.,
retsenzent; SHUKHGAL'TER, L.Ya., redaktor; SHCHEDRINA, I.P.,
tekhnicheskiiy redaktor.

[Production norms in the non-ferrous metal industry] Tekhnicheskoe
normirovanie v tsvetnoi metalloobrabatyvaiushchei promyshlennosti.
Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi
metallurgii, 1951. 201 p. (MLRA 8:2)
(Efficiency, Industrial) (Metal industries)

RAZUMOV, I.M., doktor ekonomicheskikh nauk, professor.

[Technical standardization of labor in an industrial enterprise in the U.S.S.R.] Tekhnicheskoe normirovanie truda na promyshlennom predpriatii v SSSR; stenogramma publichnoi lektsii, pročitannoi v Moskve. Iz tsikla lektsii "Ekonomika i organizatsiia sotsialisticheskogo promyshlennogo predpriatiia." Moskva, Znanie, 1952. 30 p.

(MLRA 6:5)

(Efficiency, Industrial)

RAZUMOV, I.M., professor, doktor ekonomicheskikh nauk; GINZBURG, Ye.G.,
~~kandidat~~ ~~tekhnicheskikh nauk.~~

[Technical standardization in nonferrous metallurgy] Tekhnicheskoe
normirovanie v tsvetnoi metallurgii. Moskva, Gos. nauchno-tekhn.
izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1953. 279 p.
(MLRA 6:12)

(Metallurgy) (Efficiency, Industrial)

4-20-1 11-10-1953-10-6
RAZUMOV, I.M., doktor ekonomicheskikh nauk, professor.

[Technical labor norms at industrial enterprises in the U.S.S.R.]
Tekhnicheskoe normirovanie truda na promyshlennom predpriatii v
SSSR. Moskva, "Znanie," 1953. 39 p. (Vsesoiuznoe obshchestvo po
rasprostraneniu politicheskikh i nauchnykh znani, Ser. 2,
no.64)

(MLRA 6:12)

(Labor productivity)

RAZUMOV, Ippolit Mikhaylovich

[Principles of technical standardization in the nonferrous metal industry] Osnovy tekhnicheskogo normirovaniia v tsvetnoi metallo-
obrabatyvaiushchei promyshlennosti. Moskva, Metallurgizdat, 1954.
(MLRA 8:2)

(Nonferrous metals--Metallurgy)

RUMYANTSEV, G.N., redaktor; BORISOV, M.I., redaktor; BUYANTUYEV, B.R.,
redaktor; KROTOV, V.A., redaktor; RAZUMOV, I.M., redaktor;
KHADALOV, P.I., redaktor; SHNIPER, R.I., redaktor; AKHANOV,
TS.B., tekhnicheskiy redaktor.

[Studies on the production forces of the Buryat-Mongolian
A.S.S.R.] Materialy po izucheniiu proizvoditel'nykh sil
Buriat Mongol'skoi ASSR. Ulan-Ude, Buriat-Mongol'skoe kn-vo.
no.1. 1954. 425 p. (MIRA 9:5)
(Buryat-Mongolia--Economic geography)

RAZUMOV, Ippolit Mikhaylovich; GINZBURG, Yevgeniy Grigor'yevich; SHUKHGAL'TER, Lev Yakovlevich; AVHUTSKAYA, R.F., redaktor izdatel'stva; BERLOV, A.P., tekhnicheskii redaktor

[Organization and planning of production in plants machining nonferrous metals] Organizatsiia i planirovanie proizvodstva na zavodakh po obrabotke tsvetnykh metallov. Moskva, Gos. nauchno-tekhn. izd-vo lit-ry po chernoi i tsvetnoi metallurgii, 1956. 383 p. (MIRA 10:1)
(Nonferrous metal industries)

RAZUMOV, I.M., professor; VIDONOV, S.S.

Unpublished work of the first Russian machine builder; on the occasion of the 200th anniversary of A.K.Nartov's death. Vest. AN SSSR 26 no.4:76-83 Ap '56. (MLBA 9:7)
(Nartov, Andrei Konstantinovich, 1683-1756)

RAZUMOV, Ippolit Mikhaylovich. prof., doktor ekon. nauk; KURINA, Ye.A., red.;
~~TROFINOV, A.V., tekhn. red.~~

[Problems in setting technical work norms in industry; based on
the machinery industry] Voprosy tekhnicheskogo normirovaniia
truda v promyshlennosti (na primere mashinostroeniia) . Moskva,
Izd-vo "Znanie," 1958. 43 p. (Vsesoiuznoe obshchestvo po ras-
prostraneniui politicheskikh i nauchnykh znanii. Ser.3, no.18).
(Machinery industry—Production standards) (MIRA 11:9)

MAYEVSKIY, Ivan Vasil'yevich; RAZUMOV, I.M., doktor ekonom.nauk, otv.
red.; BAKOVETSKAYA, V.S., red.izd-va; HYLINA, Yu.V., tekhn.red.

[Heavy industry in the U.S.S.R. during the first years of
socialist industrialization, 1926-1929] Tiazhelaiia promysh-
lennost' SSSR v pervye gody sotsialisticheskoi industrializatsii,
1926-1929. Moskva, Izd-vo Akad.nauk SSSR, 1959. 181 p.

(MIRA 12:6)

(Russia--Industries)

RAZUMOV, Ippolit Mikhaylovich, prof., doktor ekonom.nauk; SHUKHGAL'TER, Lev Yakovlevich, dotsent, kand.tekhn.nauk; TEPILOV, Georgiy Vasil'yevich, prof., doktor ekonom.nauk; TATUR, Sergey Kuz'mich, prof., doktor ekonom.nauk; KATSENBOKEN, Boris Yakovlevich, dotsent, kand.tekhn.nauk [deceased]; LETENKO, Viktor Aleksandrovich, dotsent, kand.ekonom.nauk; MURAV'YEV, Mikhail Semenovich, dotsent, kand.tekhn.nauk; KOMAROV, F.V., inzh., retsenzent; METT, G.Ya., dotsent, red.; SALYANSKIY, A.A., red.izd-va; SOKOLOVA, T.F., tekhn. red.; SMIRNOVA, G.V., tekhn.red.

[Organizing and planning machinery plants] Organizatsiia i planirovanie mashinostroitel'nykh predpriatii. Pod red. I.M.Razumova i L.I.A. Shukhgal'tera. Moskva, Gos.nauchno-tekhn.izd-vo mashinostroit. lit-ry, 1960. 491 p. (MIRA 13:6)
(Machinery industry)

BARTASHEV, L.V.; RAZUMOV, I.M., prof., red.; BASKAKOVA, T.V., tekhn. red.

[Organization of continuous-lot production in the manufacture of
machinery] Organizatsiia seriino-potochnogo proizvodstva v mashino-
stroenii. Pod red. I.M.Razumova. Moskva, Vses.in-t nauch.i tekhn.
informatsii, 1961. 49 p. (MIRA 14:11)
(Automation) (Machinery industry)

GLAGOLEVA, L.A., kand. tekhn. nauk, dots.; PROSKURNIAKOV, A.V., kand. tekhn. nauk, dots.; IPATOV, M.I., kand. tekhn. nauk, dots.; RAZUOV, I.M., prof., doktor ekon. nauk; PURTOV, S.G., inzh., starshiy prepodavatel'; MURAV'YEV, M.S., kand. tekhn. nauk, dots.; GRACHEVA, K.A., kand. tekhn. nauk, dots.; KOMAROV, F.V., inzh., retsenzent; TOBIAS, D.A., kand. tekhn. nauk, red.; SALYANSKIY, A.A., red. izd-va; EL'KIND, V.D., tekhn. red.

[Problems for the course in the organization and planning of machinery plants] Sbornik zadach po kursu organizatsii i planirovaniia mashinostroitel'nykh predpriatii. Pod red. I.M. Razu-mova, L.A. Glagolevoi. Moskva, Mashgiz, 1962. 261 p.

(MIRA 15:12)

(Machinery industry)

RAZUMOV, Ippolit Mikhaylovich; GINZBURG, Yevgeniy Grigor'yevich.

Prinimali uchastiye: GLAGOLEVA, L.A., kand.tekhn.nauk, dotsent;
GRINBERG, L.A., kand.tekhn.nauk, dotsent. ABRUTSKAYA, R.F.,
red.izd-va; ISLEK TSYA, P.G., tekhn.red.

[Industrial organization in nonferrous metalworking plants]
Organizatsiia proizvodstva na zavodakh po obrabotke tsvetnykh
metallov. 2.izd., perer. Moskva, Metallurgizdat, 1962.
540 p. (MIRA 15:5)

(Nonferrous metal industries) (Metalwork)

L 47735-65 EWT(m) Feb DIAAP

ACCESSION NR AM5004502

BOOK EXPLOITATION

Postnikov, Vladimir Ivanovich; Razumov, Ippolit Mikhaylovich

Atomic energy¹⁹ in the national economy; economics and experience of application
(Atomnaya energiya v narodnom khozyaystve; ekonomika i opyt primeneniya),
Moscow, Izd-vo "Ekonomika", 1964, 174 p. illus., biblio. Errata slip
inserted. 4,500 copies printed.

TOPIC TAGS: atomic energy, economics, radioactive isotopes, nuclear power
engineering, radiation effect

PURPOSE AND COVERAGE: This book discusses the problems of the economic effectiveness of the use of atomic energy in domestic and foreign industry and presents data associated with expanded use of atomic energy. On the basis of a large amount of factual material, the book indicates the most economical ways of introducing the use of radioactive isotopes in the national economy. The book recommends safety measures and gives the details of the use of certain types of radioactive sources. The book is intended for engineers, technicians, economists, planners, teachers, and students of higher educational institutions and technicians and a large audience of readers interested in these problems.

Card 1/2

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ACCESSION NR AM5004502

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Ch. I. Economic effectiveness of basic trends in the use of radioactive isotopes -- 5

Ch. II. Detailing the economic effectiveness of atomic technology -- 46

Ch. III. Economic indicators of the use of atomic technology abroad -- 78

Ch. IV. Some problems of unification in radioisotope instrument building -- 126

Ch. V. Organization of safety measures in working with sources of ionizing radiation -- 139

SUBMITTED: 30Sep64

SUB CODE: NP, IE

NO REF SOV: 100

OTHER: 015

Card 2/2 *mb*

KOKHTEV, Aleksandr Andreyevich; ZVONKOV, V.V., zasl. deyatel'
nauki i tekhniki RSFSR, retsenzent; FVBKIN, A.P., prof.,
retsenzent; RAZUMOV, I.M., prof., doktor ekon. nauk,
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1. Giproneftemash.
(Pneumatic-tube transportation) (Cracking process)

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neftyanogo mashinostroyeniya.
(Catalysts) (Pneumatic-tube transportation)

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SOV/184-59-4-7/18

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5.1210

AUTHORS: Razumov, I.M., Candidate of Technical Sciences, and Larionova, L.I.,
Engineer

TITLE: On the Calculation of the Carrying Away of Fine-Grained Material From
Reactor Installations With Pseudoliquefied Catalyzer Layers

PERIODICAL: Khimicheskoye mashinostroyeniye, 1959, Nr 4, pp 19 - 21 (USSR)

ABSTRACT: The article describes the tests carried out in "Giproneftemash" plant on
the carrying away of catalyzer from a four-plate multistage counterflow
apparatus 200 mm in diameter with a pseudoliquefied layer. To collect
the material carried away, three cyclones were connected successively,
600 mm above the pseudoliquefied layer of the fourth plate. The pseudo-
liquefied layer was formed on gas-distributing grates (sieves) with holes
of 3 mm (4.84%), 5 mm (4.7%) and 5 mm (6.78%), the bracketed figures
meaning the relation of the total hole-area to the surface of the apparatus.
Air at temperature of 20°C was used as a pseudoliquefying agent. Circula-
tion of solid fine-grained material in the apparatus was performed with a
pneumatic lifter. The average circulation of catalyzer was 284 kg/h.
Catalyzer carried out of the layer by air stream was taken from the
cyclones and after having been weighed was returned into the apparatus.

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On the Calculation of the Carrying Away of Fine-Grained Material From Reactor Installations With Pseudoliquefied Catalyzer Layers

During the tests, samples of pseudoliquefied layer and catalyzer, collected by the cyclones, were taken to determine their fractional composition. Sizes of solid particles, making up the fractions, were counted as diameters of equivalent spheres. The average composition of catalyzers was as follows: microspherical natural clay catalyzer 0.49 mm (2.82%), 0.34 mm (21.40%), 0.234 mm (48.51%), 0.093 mm (21.10%) under 0.093 mm (6.17%); microspherical synthetic catalyzer 0.41 mm (24.30%), 0.34 mm (27.50%), 0.27 mm (22.10%), 0.115 mm (22.10%), 0.062 mm (4.00%); ground aluminosilicate catalyzer 0.7 mm (6.55%), 0.56 mm (5.77%), 0.45 mm (17.93%), 0.3 mm (29.00%), 0.2 mm (26.20%), 0.0615 mm (21.10%) under 0.0615 mm (3.45%). Experimental data were used to compute the Lyashchenko and Reynolds numbers on the basis of the speed in the free cross-section of the apparatus, and of the weight of spherical particles, equivalent to the largest particles carried away. The air stream speeds in the free cross-section were within 0.3 - 0.6 m/sec.; maximum diameter of particles carried away was 0.03 - 0.2 mm. Diagram 1 represents the relations between Lyashchenko and Reynolds parameters and it shows that the experimental points, independent of both, catalyzer type and gas-distributing grate, are grouping near the

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On the Calculation of the Carrying Away of Fine-Grained Material From Reactor Installations With Pseudoliquefied Catalyzer Layers

theoretical relation. Equations (2) and (3) permit to calculate the maximum diameters of particles, which will be carried away from the apparatus by a gas stream, passing through the pseudoliquefied layer. On diagram 2 the diameter of carried away particles is plotted against gas stream speed. The maximum deviation of the calculated values from the experimental values was for microspherical natural clay catalyzer 13.3%, for microspherical synthetic catalyzer 28% and for ground aluminosilicate catalyzer 33%. The equations derived by the authors are compared with those proposed by L.A. Akopyan and A.G. Kasatkin [Ref 3] and by V.D. Goroshko, R.B. Rozenbaum and O.M. Todes [Ref 4]. Equations (7) - (11) give the same dependence between the maximum diameter of carried away particle on the one hand and the physical parameter of the stream and the specific weight of material on the other hand. Equations (12) - (14) serve to answer the question on the validity of experimental data obtained at low temperatures for industrial type installations with higher temperatures. Calculations carried out for air, ethane, propane and nitric oxide show that a slight change (within 20 - 30%) of the lifting power of gas stream, caused by the change of

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its temperature, cannot essentially influence either the fractional composition of fine-grained material carried away, or its weight. In conclusion it is stated that the carrying away of fine-grained material depends only on the speed of the gas stream in the apparatus and the diameter of the particles. Experimental results obtained at low temperatures can be supplied to industrial installations working at high temperatures. There are: 2 sets of graphs, 1 table and 4 Soviet references.



Card 4/4

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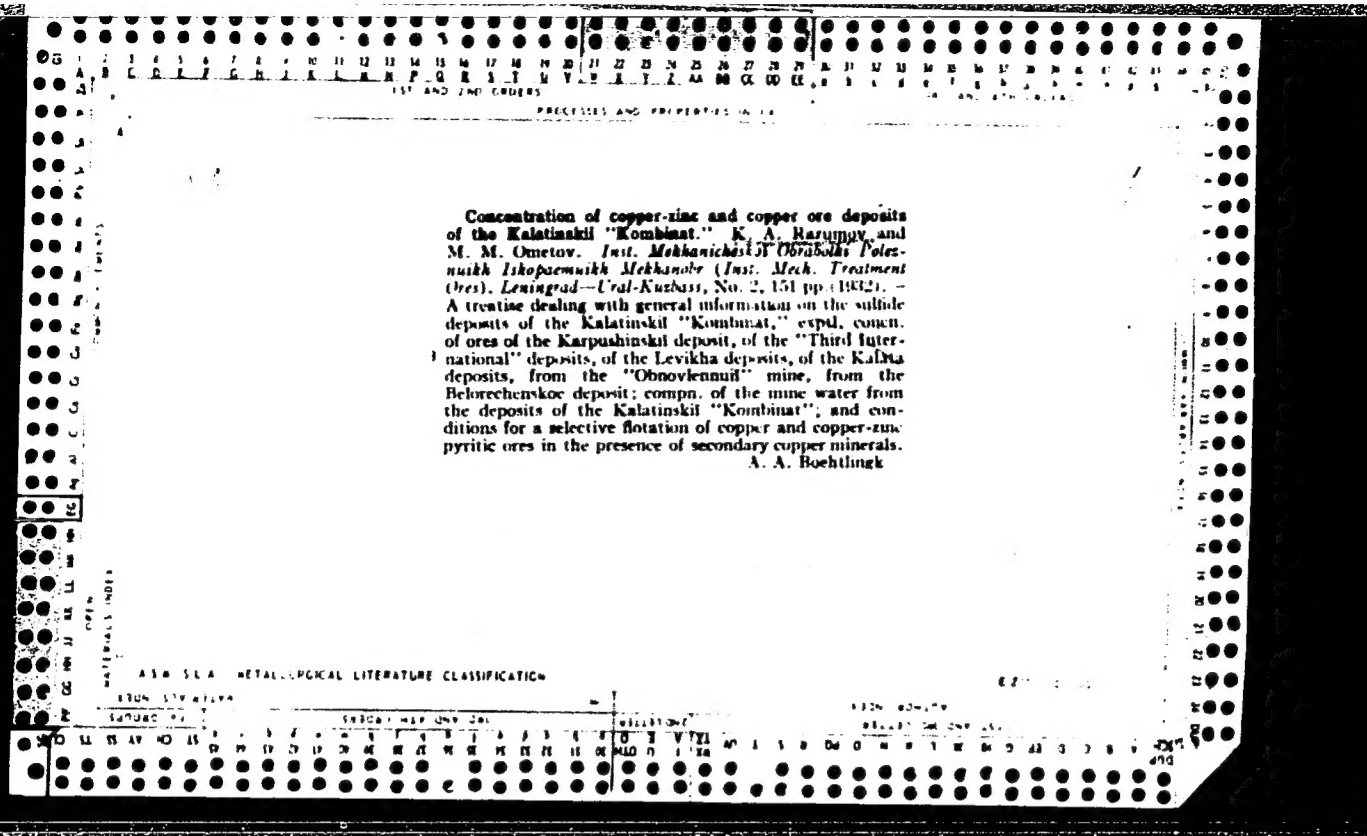
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Mercury-concentrating experimental plant in Nikitovka
K. A. Razumov. *Inst. Mekhnikheskoi Obrabotki Podel-
skikh "Pribremuikh" (Inst. Mech. Treatment Dress)*
Separate 1931, 10 pp. The one had the following av.
compos.: Hg 0.05-1.45, Sb 0.01-0.47, As 0.018-0.050,
Pb 1.18-3.16, S 0.45-1.06, SiO₂ 85.24-88.84, Al₂O₃ 3.42-
8.32, CaO 0.12-0.52 and MgO traces to 0.30%. Its
minerals were: quartz, pyrite, cinnabar, antimony
pyrite, arsenopyrite, magnetite, coal and kaolinite. The

Hg ore was sepd. by the combined method, i. e., wet
concn. and a flotation of the tailings, giving a yield of up
to 98%. The procedure is described. A. A. B.

ASH 51.4 METALLURGICAL LITERATURE CLASSIFICATION



Dressing of nonferrous metals K. A. Razumov
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COMMON ELEMENTS																										RARE EARTH ELEMENTS																										METALS																										NON-METALS																									
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CO 18 The Khibin apatite-concentrating plant. B. I. KORLAS AND K. A. RAZUMOV. Gorno-Obagatitel'noe Delo 1932, No. 1, 11-21.—The plant and operation are described. S. L. MADORSKY																																																																																																							
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